Notice of Allowability    Application No.   10/674,538   KANEKO ET AL.			AR
Examiner   Elias Desta   Z857   Z85		Application No.	
Elias Desta   2857	Notice of Allowability		
The MAILING DATE of this communication appears on the cover sheet with the correspondence address- All claims being allowable. PROSECUTION ON THE MERTIS IS (OR REMAINS) CLOSED in this application. If not include the revertity (or proviously mailed), a Notice of Allowance (PTOL-93) or other appropriate communication will be mailed in due course. THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.  1. ☑ This communication is responsive to April 22, 2005.  2. ☑ The allowed claim(s) is/are 1 and 2.  3. ☑ The drawings filed on 22 April 2005 are accepted by the Examiner.  4. ☑ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) ☑ All b) ☐ Some* c) ☐ None of the:  1. ☑ Certified copies of the priority documents have been received.  2. ☐ Certified copies of the priority documents have been received in Application No.  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).  *Certified copies not received:  Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply ville result in ABANDONIMENT of this application.  THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.  5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.  (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached  1) ☐ hereto or 2) ☐ to Paper No./Mail Date		Examiner	Art Unit
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## **Detailed Action**

## Response to remarks

1. The examiner accepts the amendment to the abstract, specification and drawing filed on April 22, 2005.

## Allowance

2. <u>Claims 1 and 2</u> are allowed. The following is an examiner's statement of reasons for allowance:

In reference to claim 1: Rosenberg et al. (U.S. Patent 6,580,417, hereon Rosenberg) teaches method of detecting tactile information on touch force on measurement points (see Rosenberg, Fig. 10a). The measurement is taken based on the signal obtained from the actuator (see Rosenberg, Fig. 3). The system includes an amplifier a DAC (Digital-to-Analog Converter) and a microprocessor. However, Rosenberg does not teach that the method of detecting tactile information does not carry out the measurement points using or based on outputs from bridge circuits constituted by strain gauges adhered to each measurement points.

The claimed invention further includes:

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- > Generating a composite sine wave signal that contains sine wave components having different frequencies;
- ➤ Applying the composite sine wave signal to each bridge circuit via a band pass filter to apply to each bridge circuit a sine wave signal of a predetermined single frequency;
- > Adding output from each bridge circuit to generate sum output;
- Using orthogonal function obtain touch force magnitude and direction; and
- Comparing voltage amplitude measured at each measurement point to a reference voltage preset for each measurement point and adjusting the voltage amplitude of the sine wave signal of each frequency applied to the bridge circuit of each of the measurement point to control the gain of the bridge circuit of each measurement point to reduce any difference between measured and reference voltages.

 $\underline{\text{Claim 2}}$  is dependent upon  $\underline{\text{claim 1}}$  and contains further limitations.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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## Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elias Desta whose telephone number is (571)-272-2214. The examiner can normally be reached on M-Thu (8:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571)-272-2216. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9306 for regular communications and After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)-272-1750.

Elias Desta Examiner Art Unit 2857

-ed

July 14, 2005

MARC S. HOFF
SUPERVISORY PATENT EXAMINER
TECH!:JOLOGY CENTER 2800